WHAT IS CLAIMED IS:

1. A conductive fabric comprising a plurality of oriented polymeric filaments, wherein each filament includes electrically conductive polymer material incorporated as either a blend or a coating, said conductive fabric having static dissipation properties comparable to metal-based fabrics whilst being resistant to dents and creases.

2. The fabric in accordance with claim 1, wherein the functional filaments constitute between five and one hundred percent of the fabric.

3. The fabric in accordance with claim 1, wherein the fabric has static dissipation properties equivalent to metal-based fabrics whilst also having physical properties comparable to non-conductive synthetic fabrics.

4. The fabric in accordance with claim 3, wherein said physical properties include one of modulus, tenacity, strength, adhesion, abrasion resistance, and durability.

5. The fabric in accordance with claim 1, wherein the filament comprises conductive polymer material blended with polymeric materials that can be oriented.

6. The fabric in accordance with claim 1, wherein the filament is a bicomponent fiber containing conductive polymer material and formed by melt extrusion.

7. The fabric in accordance with claim 1, wherein the filament comprises an oriented structure coated with conductive polymer material.

8. The fabric in accordance with claim 7, wherein the conductive polymer is applied by one of dip coating, spraying from solutions, dispersion over the filament, and thermal spraying.

9. The fabric in accordance with claim 1, wherein the filament comprises one hundred percent conductive polymer material selected from the class of polyanilines.

10. The fabric in accordance with claim 9, wherein said polyaniline filament has physical properties comparable to a polyamide filament.

11. The fabric in accordance with claim 1, wherein the filament is a lobed monofilament coated with conductive polymer material.

12. The fabric in accordance with claim 11, wherein the coating has a conductivity, minimally greater than 10^{-3} S/cm, preferably greater than 10^{3} S/cm, whilst maintaining the physical and tribological properties of the core monofilament.

13. The fabric in accordance with claim 11, wherein a surface of the monofilament has one or more C-shaped grooves running along a length thereof, so that a mechanical interlock forms between the

monofilament and the conductive polymer filling the grooves.

14. The fabric in accordance with claim 13, wherein the interlock reduces a need for adhesion of the conductive polymer to the monofilament.

15. The fabric in accordance with claim 13, wherein said configuration allows continued exposure of the conductive polymer to the filament surface as the monofilament wears so that the filament retains its conductivity.

16. The fabric in accordance with claim 13, wherein positioning of the conductive polymer in the grooves shields the polymer and reduces the impact of its lesser abrasion resistance and physical properties.

17. The fabric in accordance with claim 11, wherein the weight composition of the conductive material is ten percent or less of the total weight of the coated monofilament.

18. The fabric in accordance with claim 17, wherein said composition ratio keeps fabric production cost down whilst allowing efficient dissipation of static charge by the fabric.

19. The fabric in accordance with claim 1, wherein the fabric is single-layered , multi-layered, or laminated.

20. The fabric in accordance with claim 1, wherein the fabric is one of woven, nonwoven, spiral-link, MD or CD yarn arrays, knitted fabric, extruded mesh, and spiral wound strips of woven and nonwoven materials comprising yarns including monofilaments, plied monofilaments, multifilaments, plied multifilaments and staple fibers.

21. The fabric in accordance with claim 1, wherein the fabric is an engineered fabric used in the production of non-woven textiles in one or more of airlaid, meltblown and/or spunbonding processes.

22. The fabric in accordance with claim 1, wherein the fabric is used in a dry application in which static dissipation is required through a belting media.

23. The fabric in accordance with claim 1, wherein the conductive polymer is one of polyacetylene (PA), polythiophene (PT), poly3alkyl-thiophene) (P3AT), polypyrrole (Ppy), poly-isothianaphthene (PITN), poly(ethylene dioxythiophene (PEDOT), alkoxy-substituted poly(para-phenylene vinylene) (PPV), poly(para-phenylene vinylene) (PPV), poly(2,5-dialkoxy-para-phenylene), poly(paraphenylene) (PPP), ladder-type poly(para-phenylene) (LPPP), poly(para-phenylene) sulfide (PPS), polyheptadiyne(PHT), and poly(3-hexyl thiophene) (P3HT).

24. Polymeric filament for use in an industrial fabric having a grooved-shaped cross-section, said filament having grooves substantially

filled with electrically conductive polymer material mechanically locked in place.

25. The filament in accordance with claim 24, wherein the filament comprises conductive polymer material blended with polymeric materials that can be oriented.

26. The filament in accordance with claim 24, wherein the filament is a bicomponent fiber containing conductive polymer material and formed by melt extrusion.

27. The filament in accordance with claim 24, wherein the filament comprises an oriented structure coated with conductive polymer material.

28. The filament in accordance with claim 27, wherein the conductive polymer is applied by one of dip coating, spraying from solutions, dispersion over the filament, and thermal spraying.

29. The filament in accordance with claim 24, wherein the filament comprises one hundred percent conductive polymer material selected from the class of polyanilines.

30. The filament in accordance with claim 29, wherein said polyaniline filament has physical properties comparable to a polyamide filament.

31. The filament in accordance with claim 24, wherein the filament is a lobed monofilament coated with conductive polymer material.

32. The filament in accordance with claim 31, wherein the coating has a conductivity, minimally greater than 10^{-3} S/cm, preferably greater than 10^{3} S/cm, whilst maintaining the physical and tribological properties of the core monofilament.

33. The filament in accordance with claim 31, wherein a surface of the monofilament has one or more C-shaped grooves running along a length thereof, so that a mechanical interlock forms between the monofilament and the conductive polymer filling the grooves.

34. The filament in accordance with claim 33, wherein the interlock reduces a need for adhesion of the conductive polymer to the monofilament.

35. The filament in accordance with claim 33, wherein said configuration allows continued exposure of the conductive polymer to the filament surface as the monofilament wears so that the filament retains its conductivity.

36. The filament in accordance with claim 33, wherein positioning of the conductive polymer in the grooves shields the polymer and reduces the impact of its lesser abrasion resistance and physical properties.

37. The filament in accordance with claim 31, wherein the weight composition of the conductive material is ten percent or less of the total weight of the coated monofilament.

38. The filament in accordance with claim 24, wherein the conductive polymer is one of polyacetylene (PA), polythiophene (PT), poly3alkyl-thiophene) (P3AT), polypyrrole (Ppy), poly-isothia-naphthene (PITN), poly(ethylene dioxythiophene (PEDOT), alkoxy-substituted poly(para-phenylene vinylene) (PPV), poly(para-phenylene vinylene) (PPV), poly(2,5-dialkoxy-para-phenylene), poly(para-phenylene) (PPP), ladder-type poly(para-phenylene) (LPPP), poly(para-phenylene) sulfide (PPS), polyheptadiyne(PHT), and poly(3-hexyl thiophene) (P3HT).